

## ABSTRACT

The present invention provides an authentication system and methodology in which an authenticating agent is used as a product marker to help determine the source of products. The authenticating agent includes a substance that forms free radicals upon irradiation. The spectroscopic response of the agent when in the free radical state provides a characteristic "fingerprint" associated with genuine goods, but lacking in other goods. The goods incorporating the marker may be readily identified and/or distinguished from similar goods originating from another source. Furthermore, when not in the activated state, the authenticating agent typically is not detectable, thus providing the advantage of not being readily identifiable by counterfeiters.

$$\begin{array}{ccccccc} \{1^{(n)}\} & \{1^{(n)}\} & \{1^{(n)}\} & \{1^{(n)}\} & \{1^{(n)}\} & \{1^{(n)}\} & \{1^{(n)}\} \\ \text{first} & \text{1st} & \text{first} & \text{first} & \text{1st} & \text{first} & \text{first} \end{array}$$